

-continued

20 25 30

<210> SEQ ID NO 573
 <211> LENGTH: 32
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 573

Gly Ile Pro Glu Arg Phe Ser Gly Ser Asn Ser Gly Asn Thr Ala Thr
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Leu Thr Ile Ser Arg Val Glu Ala Gly Asp Glu Ala Asp Phe Tyr Cys
 20 25 30

<210> SEQ ID NO 574
 <211> LENGTH: 11
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 574

Gln Val Trp Asp Ser Ser Ser Asp Pro Val Val
 1 5 10

<210> SEQ ID NO 575
 <211> LENGTH: 10
 <212> TYPE: PRT
 <213> ORGANISM: Homo sapiens

<400> SEQUENCE: 575

Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 1 5 10

What is claimed is:

1. An isolated monoclonal antibody that binds to PCSK9, wherein the isolated monoclonal antibody binds an epitope on PCSK9 comprising at least one of residues 237 or 238 of SEQ ID NO: 3, and wherein the monoclonal antibody blocks binding of PCSK9 to LDLR.

2. The isolated monoclonal antibody of claim 1, wherein the isolated monoclonal antibody is a neutralizing antibody.

3. The isolated monoclonal antibody of claim 2, wherein the isolated monoclonal antibody was produced by a CHO cell.

4. The isolated monoclonal antibody of claim 3, wherein the isolated monoclonal antibody binds to PCSK9 with a K_D of less than or equal to 5×10^{-9} M.

5. The isolated monoclonal antibody of claim 2, wherein the isolated monoclonal antibody is a human antibody.

6. The isolated monoclonal antibody of claim 5, wherein the isolated monoclonal antibody comprises a light chain region that comprises an amino acid sequence of SEQ ID NO: 157.

7. The isolated monoclonal antibody of claim 2, wherein the epitope is a functional epitope.

8. The isolated monoclonal antibody of claim 2, wherein the epitope is a structural epitope.

9. The isolated monoclonal antibody of claim 2, wherein the epitope is an epitope on a native PCSK9 protein.

10. The isolated monoclonal antibody of claim 2, wherein the epitope comprises at least residue 237 of SEQ ID NO: 3.

11. The isolated monoclonal antibody of claim 2, wherein the epitope comprises at least residue 238 of SEQ ID NO: 3.

12. The isolated monoclonal antibody of claim 2, wherein the isolated monoclonal antibody is a humanized antibody.

35 13. An isolated monoclonal antibody that binds to human PCSK9 at one or more of amino acid residues 237 or 238 of SEQ ID NO: 3, and wherein the monoclonal antibody blocks binding of PCSK9 to LDLR.

14. The isolated monoclonal antibody of claim 13, wherein the isolated monoclonal antibody is a neutralizing antibody.

40 15. The isolated monoclonal antibody of claim 14, wherein the isolated monoclonal antibody was produced by a CHO cell.

16. The isolated monoclonal antibody of claim 15, wherein the isolated monoclonal antibody binds to PCSK9 with a K_D of less than or equal to 5×10^{-9} M.

17. The isolated monoclonal antibody of claim 14, wherein the isolated monoclonal antibody is a human antibody.

18. The isolated monoclonal antibody of claim 17, wherein the isolated monoclonal antibody comprises a light chain region that comprises an amino acid sequence of SEQ ID NO: 157.

19. The isolated monoclonal antibody of claim 17, wherein the isolated monoclonal antibody further binds at least one of amino acid residues 153, 194, 374, 377, or 379 of SEQ ID NO: 3.

20. The isolated monoclonal antibody of claim 17, wherein the isolated monoclonal antibody further binds at least one of amino acid residues 367 or 382 of SEQ ID NO: 3.

21. The isolated monoclonal antibody of claim 17, wherein the isolated monoclonal antibody further binds at least one of amino acid residues 192, 194, or 197 of SEQ ID NO: 3.

22. The isolated monoclonal antibody of claim 14, wherein the isolated monoclonal antibody is a humanized antibody.

23. The isolated monoclonal antibody of claim 14, wherein the isolated monoclonal antibody binds at least amino acid residue 237 of SEQ ID NO: 3.